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ACUTE RENAL INSUFFICIENCY*

Report of Four Cases

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In the two-year period between April, 1946 and April, 1948, four cases of acute renal insufficiency were encountered at the Memorial Hospital. It is difficult to determine the frequency of occurrence of this catastrophe. The mortality in reported series has been extremely high. Lucke concluded that once acute renal insufficiency occurred the mortality rate is approximately 90 per cent.

Numerous forms of treatment have been tried for this condition. Most of these consist of attempts to promote diuresis or to force the kidneys into action. Proper understanding of the pathology demonstrates the futility of all efforts directed toward stimulation of the damaged kidneys. We now know that once renal insufficiency develops, a certain amount of time is required (8-12 days) for recovery of the kidneys, and no known measures have succeeded in shortening this period.

In 1946, Fine, Frank, and Seligman utilized peritoneal irrigation, thus utilizing an extra-renal pathway as a temporary substitute for the normal excretory function of the kidney to avert death from uremia before enough time elapsed for the spontaneous recovery of the kidneys. Since their report, several isolated cases of the successful use of peritoneal irrigation have appeared in the literature.

In a recent study, Muirhead, Haley, Haberman, and Hill place the treatment of cases of acute renal insufficiency on a rational basis, with a regime based on physio-pathological principles and the main clinical abnormalities. They treated 20 cases of acute renal insufficiency, 10 resulting from incompatible transfusions and 10 due to other causes. The mor-

tality rate was only 25 per cent, a much lower figure than previously reported.

In the present report, four cases of acute renal insufficiency are reviewed. One was caused by hemolytic transfusion reaction, one apparently followed prolonged post-operative hypotension, and two occurred during the course of acute pancreatitis. The latter two cases terminated fatally, giving our series a mortality of 50 per cent. The most recent case was treated according to the principles outlined by Muirhead and associates, with recovery, and will be discussed in detail. The pathogenesis, clinical course, and treatment of this condition are briefly discussed.

CASE I

E. L., a 69-year-old white female, was admitted to the hospital on April 11, 1946, with a 30-hour history of upper abdominal pain and soreness, associated with nausea and vomiting. Past history was essentially negative except for attacks of right upper abdominal pain for many years, attributed to gall bladder disease. At the time of admission, temperature 101.8, pulse 112, respiration 24, blood pressure 135/75. Physical examination revealed slight dullness and fine rales in right pulmonary base, and tenderness and muscle guarding in upper abdomen, especially in right upper quadrant. Chest x-ray revealed pneumonitis in right base. Admission diagnosis was acute cholecystitis, possible acute pancreatitis.

On the day following admission serum amylase was 175, icterus index 22, and serum bilirubin 2 mgm. per cent. She was placed on parenteral fluids, 3000 cc. daily, and penicillin was given, 50,000 units every 3 hours. On the day of admission urinary output was 450 cc. In the next 24 hours output was only 300 cc. and on the third hospital day the urinary output was down to 145 cc. From that day on, there was a steady gradual increase of urinary excretion to a peak of 3900

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	2	3	4	5	6	8	9	10	11	14	17	21
Intake	3090	2250	3000	3000	3000	3360	4000	3930	4260	2500	1050	1320
Output	300	145	325	650	785	1850	2350	2500	3900	2100	850	1150
CO ₂		39			27	22	34		35			
BUN	60	120	127	150	145	175	230		105		55	27

cc. in 24 hours on the 11th hospital day. On the second hospital day, the blood urea nitrogen was 60 mgm. per cent, and the patient was confused. The BUN gradually rose to a peak of 230 mgm. per cent on the 7th hospital day, and from that day on it fell rapidly to 27 mgm. per cent on the 22nd hospital day.

During the period of renal insufficiency, evidenced by diminished output and azotemia, treatment consisted of daily infusion of 3000 cc. of one-sixth molar lactate solution, to which vitamins B, C, and K were added. The patient made an uneventful recovery and was discharged on the 29th hospital day, asymptomatic, mentally clear, and ambulatory.

The patient was followed in the outpatient department for a short time. In September, 1946, she was readmitted to the hospital for renal study. At that time no abnormalities of renal function were noted. A carcinoma of the left breast was discovered, and radical mastectomy was performed. She had an uneventful post-operative course, and was discharged 2 weeks after operation with no complaints.

COMMENT

This patient apparently had a history of gall bladder disease in the past, and was admitted shortly after the onset of acute pancreatitis. On the second hospital day, the patient became oliguric, and developed marked azotemia. Diuresis began on the 8th day, accompanied by a fall in the blood urea nitrogen. She has never received blood or plasma, and the cause of the acute renal insufficiency must be attributed to the pancreatitis. No special therapeutic measures were instituted, except for the use of one-sixth molar lactate to combat acidosis. No attempt was made to restore renal function by excessive fluid therapy. On return to the hospital 5 months later, a BUN was 22 mgm. per cent, and phenolsulfon phthalein excretion was 27 per cent at the end of 2 hours. No further studies of renal function were conducted.

CASE II

R. C., a 56-year-old white male, was admitted on 6-11-47 with the chief complaint of a tumor mass in the posterior mediastinum discovered in a routine chest x-ray film. There could be elicited no symptoms referable to the chest, neck, mediastinum, or abdomen. The patient's only complaint was nervousness, which, he stated, had been present all his life.

Physical examination revealed an obese white man with some flushing of the face. The thyroid was not palpable. Heart, chest, abdomen, and rectum were negative.

On 6-16-47, an intra-thoracic benign thyroid adenoma was removed through a curved right postero-lateral chest incision over the fourth rib, which was also removed.

The total urinary output on the first post-operative day was 165 cc. while the intake was 3600. The temperature was 102 (R), BUN 6 mgm. per cent, and CO₂ was 42 volumes per cent. On the second post-operative day, the patient was started on 2½ per cent sodium sulfate solution with added glucose. Two thousand cc. of this solution were given. The intake was 2450 cc., the output 25 cc. At this point, it was decided to restrict the intake of sodium ion and to limit the fluid intake to no more than 1500 cc. per day. Ten per cent glucose in distilled water was administered in quantities of 1000-1500 cc. per day for the next several days with no change in the urinary output, which ranged from 0 to 100 cc. per day. (See chart for daily intake and output).

The BUN rapidly increased to a high of 375 mgm. per cent on the 10th post-operative day, while the CO₂ combining power was gradually falling to a low of 26 volumes per cent on the 10th post-operative day.

On the 10th post-operative day the patient was transferred to Hahnemann Hospital, Philadelphia, for the purpose of instituting

	Pre-Op	1	2	3	4	5	6	7	8	9	10
Intake		3600	2450	1360	1330	1480	1560	1550	1560	2450	
Output		165	25	0	50	60		100	75	150	
CO ₂		42.8			40			33.4			25.8
BUN	18				185			230			375

peritoneal lavage. The patient expired shortly after being admitted to that hospital.

At autopsy the typical findings of lower nephron nephrosis were demonstrated in the kidneys.

CASE III

J. H., a 64-year-old white male, was admitted to the hospital on 12-12-47 with the chief complaint of abdominal pain of six days' duration.

His past history revealed a twenty-five-year history of indigestion, diagnosed as a fallen stomach, because of which he wore a supporting belt for several years. Two years prior to admission he developed right upper quadrant and epigastric pain which was diagnosed as duodenal ulcer. Since then upper abdominal pain has been intermittently present, worse at night, with no definite relation to food.

Six days prior to admission, pain began in the lower abdomen and, the patient states, was worse at night. After two days it became localized in the right side of the abdomen. No bowel movements noted since the onset. Physical examination revealed right upper quadrant pain, muscle spasm, and rebound tenderness. No palpable mass was present. Temperature, WBC, and urinalysis on admission were normal.

A cholecystogram with double dosage of dye showed poor function and calculi in the gall bladder.

On 12-18-47 a cholecystectomy was performed. During the first twelve hours post-operatively, the urinary output was 400 cc.; the intake was 2500 cc. At this time the pa-

tient became markedly oliguric, putting out only 80 cc. on the first post-operative day and 30 cc. on the second. The intake was 3000 cc. and 7000 cc. respectively; however, on the second day there was 1600 cc. Wangenstein drainage. A BUN of 70 mgm. per cent was recorded on the second post-operative day. At this point peritoneal lavage was instituted by inserting a mushroom catheter in the left lower quadrant, which was supplemented with gastric lavage. There was no improvement; the BUN gradually climbed to a high of 190 on the ninth post-operative day. Generalized anasarca, cyanosis, and dyspnea along with mental confusion developed on the fourth post-operative day. The patient was rapidly digitalized and supported with oxygen, sedation, penicillin, and streptomycin therapy. The urinary output remained in the neighborhood of 30-40 cc. per 24-hour periods.

On the sixth post-operative day, peritoneal lavage was stopped because of leakage of irrigating fluid into subcutaneous tissues. Also all I. V. fluids and gastric lavage was discontinued. There was an output of 70 cc.

Mental confusion and cyanosis again developed on the seventh post-operative day followed by convulsions and coma on the eighth day. An output of 480 cc. was noted on this day.

The generalized edema persisted in spite of discontinuance of all parenteral fluids and the patient expired on the ninth post-operative day.

An autopsy was performed and the diagnosis of lower nephron nephrosis was made.

	OP	1	2	3	4	5	6	7	8	9	
Intake	I.V.	3000	7000	4000	2000				360		Expired
	P.O.	350	1580	810			80		plasma		
Output	Urine	80	30	60	40	70	170	290	480		
	Wangenstein	500	1600	2000	1850	2540					
	BUN		70	70	80	75	100	120	120	190	
	Blood Chlorides			432	380	374	376	412	410	47	
	CO ₂			52	73	62	56	52	54	58	

CASE IV

A. J. (see chart), a 43-year-old Negro female, was admitted on 4-11-48. Her chief complaint was dysmenorrhea of two months' duration, with cramping lower abdominal pain before and during the last two periods. No increase in menstrual flow and no discharge were noted. Periods have continued to be regular and her last normal periods began March 14, 1948 and on April 3, 1948. The patient had had three miscarriages, the last one two years ago, and no full term pregnancies. Previous health had been excellent.

BP 100/80; P 80; R 16 on admission.

Examination revealed a large, firm irregularly shaped uterus which was enlarged up to the umbilicus. No adnexal masses were noted and the rectal examination was negative. The pre-operative diagnosis was uterine myomata.

RBC on admission was 2.96 with 10 grams of hemoglobin. WBC was 8200 with a normal differential. Urinalysis was negative. This patient was given 500 cc. whole blood prior to operation.

On 4-12-48 total hysterectomy, bilateral salpingo-oophorectomy, and appendectomy were performed. During the operative procedure the patient received 500 cc. of whole blood, together with 2000 cc. 5% glucose in saline. Her blood pressure was maintained at 100-120/60-90 throughout the procedure. Spinal anesthesia, supplemented with cyclopropane-curare, was used. The pulse was never in excess of 100 and the patient was returned to her room in good condition.

Shortly after returning to the ward the patient went into shock, the blood pressure dropping to 70/40 and the pulse jumping to 150. After receiving 500 cc. of whole blood the pressure returned to 90/60. During this episode the patient had moderately severe chills and a temperature of 104 (R).

The following morning, 4-13-48, her first post-operative day, the patient again went into shock. The blood pressure fell to 60/30 and the pulse increased to 154. The respirations were rapid and deep. She was given blood, plasma, and glucose saline which brought the blood pressure back to 86/50. RBC at this time was 4.52 and there was no evidence of hemorrhage. At this point a

transfusion reaction was suspected because her urinary output was diminished (600 cc. the first post-operative day) and dark red in color. Urinalysis revealed a heavy cloud of albumen and countless RBC's.

On the second post-operative day the BUN was 75 mgm. per cent, CO₂ combining power was 30.5 vols. per cent, and the blood chloride was 438 mgm. per cent. The serum bilirubin was 0.3 mgm. per cent. At this point one-sixth molar Ringer's lactate solution was started to combat the acidosis.

The urinary output dropped to 300 cc. on the second post-operative day, then gradually increased daily until a high of 6900 cc. was reached on the ninth post-operative day. The BUN gradually increased to a high of 160 on the sixth post-operative day and then slowly decreased to 38 on the date of discharge. A gradual increase in creatinine and blood pressure followed by a slow return to normal was also noted.

The temperature curve on this patient showed remarkable oscillations during the post-operative periods. During the first six post-operative days the temperature ranged from 100 to 105. During the periods of extreme temperature elevation there were semi-comatose reactions and transient mental confusion. On the eighth post-operative day the temperature spiked to 107. The patient was comatose and showed twitching of extremities but no definite convulsions. Pre-tibial and periocular edema was present. The respirations were rapid and shallow. Cold packs and oxygen reduced the temperature rather rapidly to 101. The output was 4400 cc. and the intake was 5800 cc. on the day of the temperature elevation. The BUN was 120 mgm. per cent, creatinine 7.5 mgm. per cent, CO₂ 60.7 vols. per cent, and the blood chloride reached a low 372 mgm. per cent. At this time the patient was given large quantities of 5 per cent glucose in saline to offset the chlorides lost through sweating and the sizable urinary output.

The following day the patient showed marked clinical improvement. She responded well and her sensorium returned to normal. At this point severe diarrhea began which further complicated the control of electrolyte balance.

During the stage of renal insufficiency

Operation	1	2	3	4	5	6	7	
Intake	6500 cc. Blood 1000 Saline 2000 Water 3500	4600 cc. Blood 500 Plasma 600 Saline 1500 Water 2000	2250 cc. Blood 250 NaLactate 2000	5100 cc. Plasma 600 NaLactate 3000 Saline 1500	4500 cc. Amigan 1000 NaLactate 1000 Saline 500 Water 2000	3000 cc. Saline 1500 Water 2000	1000 cc. Water 1000	4000 cc. Saline 1000 Water 3000
Output	610	600	300	660	1300	1900	2680	3025
B.P.	100/80 72/40	65/40 90/50	80/40 98/50	100/60	120/80	140/90	158/110	128/70
RBC	2.96	4.52	3.73	3.06	3.62	3.76	3.29	3.30
Hematocrit				39		32		
BLOOD CHEM								
BUN			75	90	130	135	160	140
Creatinine				8.3		9.4		8.1
CO Cp.			30.5	56	68.3	78.7		65.5
Chlorides			438	374	380	352	380	360
Protein			4.97		4.68			4.75
URINALYSIS								
Color	Straw	Red-brown	Red-brown	Red-Yellow	Amber	Amber	Yellow	Yellow
Ph	Alk	Acid	Alk	Alk	Alk	Alk	Neutral	Alk
Sp. Gr.	1019	1010	qns	1010	1015	1011	1009	1009
Alb.	0	Heavy, cloud	Very heavy	Cloud	Mod. Tr.	Tr.	Tr.	Tr.
RBC's	0	Countless	20-25	20-25	25-30	20-25	610	2-3
	8	9	10	11	12	13	14	15
Intake	5800 cc. Plasma 300 Saline 3500 Water 2000	6000 cc. Blood 500 Saline 3500 Water 2000	4450 cc. Plasma 300 Saline 2000 Water 2000 Oral 150	5300 cc. Saline 2000 Water 3500	3920 cc. Saline 2000 Water 1500 Oral 420	3310 cc. Water 2500 Oral 810	2970 cc. Saline 1500 Water 1000 Oral 470	2820 cc. Saline 1000 Water 1000 Oral 820 820
Output	4400	6920	5400	5500	3600	1850	3300	2560
B.P.	150/80	148/70	160/90	135/75	130/70	130/70	140/75	125/75
RBC	3.29	2.91	3.11	3.05	3.00		3.05	
Hematocrit	36			36				
BLOOD CHEM								
BUN	120	135	90	50	52	68	30	48
Creatinine	7.5	6.8	3.8	3.3	2.9		3.5	
CO Cp.	60.7	50.4	55.1	58.9	43.0	53.8	52.2	
Chlorides	372	416	492	440	470	520	488	
Protein		6.01		6.41			7.42	
URINALYSIS								
Color	Yellow	Yellow	Yellow	Yellow		Yellow	Yellow	Yellow
Ph	Alk	Acid	Alk	Alk		Alk	Alk	Alk
Sp. Gr.	1009	1010	1010	1006		1013	1011	1011
Alb.	Sl. tr	Tr.	Sl. tr.	Tr.		Mod. tr.	Mod. tr.	Mod. tr.
RBC's	4-5	2-3	Occas.	0		Neg.	2-3	2-3
	16	17	18	19	20	23	26	30
Intake	3380 cc. Saline 1000 Water 1000 Oral 1380	2490 cc. Water 1500 Oral 990	1750 cc. Water 1000 Oral 750	2140 cc. Water 1000 Oral 1140	1700 cc. Oral 1700	1650 cc. Oral 1650	1440 cc. Oral 1440	1110 cc. Oral 1110
Output	2400	2510	1750	3000	1600	950	1120	BRP
B.P.	130/70	130/75	128/74	130/70	125/80	116/76	110/70	100/65
RBC					3.08			3.45
Hematocrit								
BLOOD CHEM								
BUN	38	38	37	32	38	34	31	25
Creatinine	1.7	1.0	1.3		1.1			1.0
CO Cp.								
Chlorides								
Protein								
URINALYSIS								
Color		Yellow			Yellow	Yellow		Yellow
Ph		Alk			Alk	Acid		Acid
Sp. Gr.		1012			1013	1013		1010
Alb.		Sl. Tr.			Sl. Tr.	Trace		Trace
RBC's		2-3			0	0		0

treatment was directed primarily toward maintaining the fluid balance, with the idea of replacing only that which was lost through the insensible route in addition to the actual urinary output and that which was lost through the gastro-intestinal tract. The relatively large quantities of fluid given during the first few days when the output was at a minimum was necessary because of the high temperature which produced considerable fluid loss through perspiration.

During the phase of diuresis it was necessary to give greater quantities of fluid to combat dehydration as well as a potential imbalance of the chlorides and CO_2 combining power. During this time there was considerable difficulty controlling and elevating the chloride level; however, each day brought further improvement until a normal level was obtained. Complete restoration of normal kidney function was not obtained when the patient was discharged from the hospital, as evidenced by a BUN of 25, a trace of urinary albumin and a low fixed sp. gr. of the urine. However, it is a well known fact that complete recovery often takes weeks and even months.

DISCUSSION

Etiology

Acute renal insufficiency may result from different causes, including:

1. Incompatible (hemolytic) blood transfusion.
2. Prolonged hypotension.
3. Crush injury.
4. Burns.
5. Sulfonamides.
6. Carbon tetrachloride intoxication.

Regardless of the cause, the cases seem to run a similar course, and the renal lesions in these have been shown to be morphologically similar.

Most of the reported cases have been shown to be the result of transfusion reaction. Prior to the discovery of Rh antigens the incidence of hemolytic reactions was about 2 per 1000 transfusions, and of these 58 per cent were fatal. In spite of the exclusion of the Rh factor by routine testing, reactions still occur, due to sub-groups and other less understood blood antigens, plus regrettable clerical-technical errors. Excluding sudden fatality at the onset of a transfusion reaction, which is

rare, renal complications are the main causes of serious sequelae.

In a series of post-traumatic renal insufficiency cases in battle casualties it was found that kidney failure can result from moderate to severe shock, even though the shock may be transient, irrespective of the nature of the injury. The degree of renal damage is apparently not related to the degree or duration of shock.

There is no evidence that pre-existing renal disease is a predisposing factor.

Pathogenesis

The factors necessary for the production of changes in the kidneys are not fully understood at present. Hemolysis alone or the liberation of products of damaged red blood cells is not all that is necessary. Various clinical hemoglobinemias and hemoglobinurias occur frequently without the development of renal insufficiency. Large quantities of hemoglobin solution have been infused without producing renal failure or insufficiency.

Yuile has produced renal insufficiency consistently by intravenous injections of hemolyzed red cells into animals after the kidneys have been damaged by either temporary constriction of renal vessels, or administration of nephrotoxic substances, as sodium tartrate.

The various factors involved may be summarized as follows: lowered blood pressure, vasoconstriction of renal vessels, reduced renal blood flow, lowered alkali reserve and the secretion of large amounts of hemoglobin and hemoglobin derivatives in an acid urine. Thus, primary renal damage, as might occur clinically in prolonged hypotension, severe anemia, or acute decrease in blood volume is a prerequisite, which together with hemolysis gives rise to the more severe renal damage and renal insufficiency.

Pathology

The kidneys show characteristic lesions, to which the name "hemoglobinuric nephrosis" and "lower nephron nephrosis" have been applied.

The kidneys are usually enlarged to $1\frac{1}{2}$ -2 times normal size. The cortex is pale, and the medulla is dark, dusky, and well striated. Microscopically, the main damage is in the lower segment of the nephron, which reveals degeneration or necrosis of the tubular epi-

thelium, associated with foci of leucocytic infiltration. Heme casts are seen in the distal segments and in collecting tubules. The upper segments are the seat of acute parenchymatous degeneration and at times fatty change. Leakage of plasma proteins through glomerular membrane is evident, particularly in early stages. The glomeruli otherwise appear to be undisturbed morphologically.

Regeneration of the distal segments becomes evident by the eighth to tenth day. The damaged lining cells slough into the lumen and are replaced by new cells. The young cells are flat at first but later gain more substance. The inflammatory foci are replaced by fibrous tissue.

Clinical Course

The course may be divided into three phases.

- I. Reaction Shock (hemolysis and hypotension), 1st day
 1. Sudden onset.
 2. Apprehension, backache, etc.
 3. Dyspnea, cyanosis.
 4. Hypotension, mental confusion.
 5. Chill, fever.
 6. Hemoglobinemia, hemoglobinuria.
- II. Renal Insufficiency (tubular damage), 1-12 days
 1. Oliguria, heme casts.
 2. Azotemia, hypertension.
 3. Elevated serum K.
 4. Depressed serum Na, Cl, CO₂ comb. power, Ca.
 5. Rising titers of agglutinins.
- III. Salt losing Diuresis (tubular regeneration), 8-16 days
 1. Copious diuresis.
 2. Severe dehydration if water and salt not supplied.
 3. Recovery.

Reaction Shock Stage

The amount of incompatible blood necessary to cause reaction varies widely, and manifestations may occur following from 40 to 500 cc. transfusion.

There is usually chill, fever, dyspnea, chest pain, backache, cyanosis, and mental confusion. Hypotension occurs, and lasts a variable period of time. Hypotension in itself may further be conducive to renal damage.

A hemorrhagic tendency is not unusual soon after the reaction.

Renal Insufficiency Stage

Oliguria occurs early and is usually marked, but it is not static, and each day a greater volume of urine is excreted. As little as 10 cc. of urine in 24 hours has been reported. There is marked decrease in the excretion of solid matter in the urine.

The urine contains pathologic elements during the first few days. Free hemoglobin gives the first few specimens a dark red or reddish-brown color. Hemoglobinemia and hemoglobinuria usually disappear in 24-36 hours. Proteinuria is definite even after the hemoglobinuria subsides, gradually coming down in 4-5 days. Heme casts occur and are important diagnostic criteria. Presence of intact red cells is common, and white cells are present during the oliguric phase. The urine specific gravity is depressed (1.005-1.010) and remains low for a prolonged period after recovery. In fact, the inability to concentrate urine is one of the earliest derangements of the kidney to appear and one of the last to disappear after recovery takes place.

The total circulating plasma volume is uniformly increased, usually 20-40 per cent above normal. NPN, urea, creatinine, uric acid, and phosphorus rise during the insufficiency stage. Hypertension occurs, and usually parallels the azotemia. Hypochloremia is usually severe, as is the lowered sodium level. There is an early rise in the potassium level, and a lowering of calcium levels. A progressive, fairly severe acidosis is characteristic, manifested by falling plasma CO₂ combining power as renal failure progresses.

The renal insufficiency stage lasts 8-12 days and culminates either in a fatality in uremia and other complications or in recovery following a copious diuresis.

Diuresis Phase

The diuresis becomes marked following a gradual daily increase in 24-hour urinary output. The ability of the kidneys to concentrate waste products gradually improves, and these two factors increase the solid output. During the early phases of the diuresis, not only is the 24 hour urine urea output markedly elevated, but there is a considerable excretion of salt, mainly NaCl 20-40 Gm sometimes lost in 24

hours. The kidneys during these few days are capable of volume production, but have not recovered sufficiently to conserve water and salts. The water and salt loss may reach the point of severe dehydration and even death, unless replaced.

Management

It must be emphasized that it requires 8-12 days for the regeneration of damaged kidney nephrons, and therefore the main requisite in therapy is time for spontaneous recovery. Burnett stresses the fact that once renal insufficiency occurs there are no positive measures capable of reestablishing renal function. The aim should be to avoid measures that may be harmful before the kidneys have begun to recover spontaneously.

The following renal-stimulating measures have been tried:

1) Hypertonic solutions—Since patients with renal insufficiency already have too large a plasma volume and too much extracellular fluid, hypertonic solutions are dangerous because they tend to increase further the plasma volume and tend to encourage water and salt retention.

2) Mercurial diuretics—These were tried without any demonstrable diuretic effect.

3) Aminophylline—No diuresis occurred in 4 cases.

4) Sodium sulfate solution—No beneficial or harmful results were observed in 2 patients.

5) Alkalies—Once renal insufficiency occurs the value of producing an alkaline urine is debatable. Furthermore, there is the danger of adding sodium to the extracellular fluids. Alkalies should be used only to the extent of correcting the associated acidosis.

6) Spinal anesthesia—Attempted in 2 cases, with no diuretic effect noted.

7) Kidney decapsulation and sympathectomy. Tried without any benefit.

8) Magnesium sulfate—Tried without effect.

Muirhead et al conclude from a study of reported cases that there are four outstanding faults in the management of these cases:

1) The failure to administer adequate quantities of blood during the early shock period and after the stage of hemolysis.

2) There has been a frequent and almost universal attempt to "force" the kidneys into

action during the oliguric period, by vigorous fluid intake. In the absence of adequate urinary output, the renal insufficiency soon becomes complicated by cardiac failure from overload of the circulation, or pulmonary edema from increased water retention. A large number of patients died rather promptly of pulmonary edema before they could die of uremia or before they could regain adequate renal function. Many reported cases were complicated by generalized edema, which was assumed to be part of the syndrome. Its occurrence is not a necessary component of renal failure, but is rather the result of a fluid intake which surpasses the capacity of the damaged kidneys.

3) The failure of salt replacement during the phase of diuresis. This may result in severe dehydration, convulsions, hyperpyrexia, and death unless corrected.

4) The infrequent detailed study of the electrolyte pattern in these cases as a guide to prognosis and therapy.

The proper management of cases of renal insufficiency falls into three phases as follows:

1) Stage of reaction shock—During the early phase of anemia, decreased blood volume, and hypotension, the patients must be treated with adequate amounts of whole blood, up to 2500 cc. may be needed to correct shock. The clinical picture and the degree of hemodilution are used as guides to therapy.

2) Stage of oliguria and azotemia (renal insufficiency)—During this phase no attempt should be made to force the damaged kidneys into action, or to lower the level of nitrogenous waste products. Fluid intake should be limited to the estimated insensible fluid loss plus a volume equal to the urinary output. As a rule 1000 to 1800 cc. of water plus the urinary volume is given in a 24 hour period. The daily requirements of vitamins C and B are given intravenously. The CO₂ combining power should be maintained above 50 volumes per cent to avoid acidosis, but no attempt should be made to alkalinize the urine once renal insufficiency develops. Dangerous hyperpotassemia and hypocalcemia are rarely encountered. It is important to emphasize that mental clarity has been noted with blood urea levels of 250-300 mgm. per cent and only

slight to moderate mental dullness was associated with levels of nearly 450 mgm. per cent.

3) Diuresis stage—The main emphasis here is the replacement of water and salts lost in the urine. During this period the azotemia, hypertension, and altered electrolyte pattern are reversed toward normal, but severe dehydration threatens. The replacement of water and salt should be made as near as possible on a gram for gram basis, by measuring the urine volume and salt output. The salt-water needs may amount to 20-40 grams and 5000-10,000 cc. daily. This demand usually exists for 4-5 days. The output above normal may continue for weeks to a few months, until complete recovery of renal clearance.

SUMMARY

The history, treatment, and course of four cases of acute renal insufficiency are presented.

Acute renal insufficiency may result from incompatible transfusions, prolonged hypotension, crush injury, burns, sulfonamides and carbon tetra-chloride intoxication.

A theory of the pathogenesis is discussed and the characteristic pathological lesion called hemoglobinuric nephrosis or lower nephron nephrosis is described.

Various forms of treatment are briefly discussed with emphasis placed on the rational physio-pathological principles of Muirhead, Haley, Haberman, and Hill, who divide the clinical course into three main phases. Reaction shock represents phase one which is manifested by sudden onset with apprehension, cyanosis, dyspnea, hypotension, mental confusion, chill, fever, hemoglobinemia, and hemoglobinuria. Treatment in this stage consists of blood and oxygen to control shock. Within 24 hours the second phase of renal insufficiency begins lasting from 8 to 12 days. Oliguria, heme casts, azotemia, hypertension, elevated serum potassium, depressed serum sodium, chlorides, carbon dioxide combining power and calcium, along with rising titers of agglutinins characterize this phase. During this time treatment should be limited to replacement of fluid lost by the insensible route and urinary output. Gradually the diuretic phase appears, characterized by copious diuresis with excessive loss of salt by the damaged

kidneys, severe dehydration if water and salt are not supplied, and slow recovery. In treating this stage, emphasis is directed toward replacement of water and salts lost in the urine.

The fourth case in this series was treated according to the plan advocated by Muirhead, et al and the results obtained apparently bear out the efficacy of this form of therapy.

BIBLIOGRAPHY

1. Muirhead, R. E., Haley, A. E., Haberman, S., and Hill, J. M.: Acute Renal Insufficiency Due to Incompatible Transfusion and Other Causes, With Particular Emphasis on Management, Special Issue No. 2, Blood, Jour. Hematol., New York, Grune and Stratton, 1948.
2. Collier, F. A., Campbell, K. N., and Job, V.: The Treatment of Renal Insufficiency in the Surgical Patient, Ann. Surg. 128: 379, Sept., 1948.
3. Strean, G. J., Korenberg, M., and Portnuff, J. C.: Acute Uremia Treated by Peritoneal Irrigation, J. A. M. A., 135: 278, Oct. 4, 1947.
4. Muirhead, R. E., and Hill, J. M.: The Treatment of Acute Renal Insufficiency, Surg. Gyn. Obs., 87: 445, Oct., 1948.
5. Burnett, C. H., et al: Post-traumatic Renal Insufficiency, Surgery, 22: 994, Dec., 1947.
6. Olson, W. H., and Hecheles, H.: Studies on Anuria—Effect of Infusion Fluids and Diuretics on Anuria Resulting From Severe Burns, Surg. Gyn. Obs., 84: 283, Mar., 1947.
7. Fine, J., Frank, H. A., and Seligman, A. M.: The Treatment of Acute Renal Failure by Peritoneal Irrigation, Ann. Surg., 124: 857, Nov., 1946.
8. Frank, H. A., Seligman, A. M., and Fine, J.: Further Experiences With Peritoneal Irrigation for Acute Renal Failure, Ann. Surg., 128: 561, Sept., 1948.
9. White, B. H., and Harkins, H. N.: The Treatment of Experimental Uremia by Intestinal Lavage, Surgery, 24: 90, July, 1948.
10. Muirhead, R. E., Small, A. B., Haley, A. E., and Hill, J. M.: Peritoneal Irrigation for Acute Renal Damage Following Incompatible Blood Transfusion: Discussion Based on 3 Cases, J. Lab. Clin. M., 32: 988, 1947.

CANCER OF THE PENIS*

Analysis of 17 Cases, With Particular Reference to Conservative Amputation

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Cancer of the penis, contrary to popular opinion, is not rare among men forty to seventy years of age in the United States, and its incidence throughout the world is even higher. Ewing⁶ estimates that penile cancer accounts for approximately 2 per cent of all cancers found in males. The incidence in Europe is approximately 5 per cent, and in China the incidence has been reported as high as 18 per cent. The disease usually originates in the glans, and since most patients who develop cancer of the penis have phimosis with previous episodes of moderate inflammation, they assume the symptoms will subside and postpone medical attention.

Since cancer of the penis is limited almost exclusively to the uncircumcised, it is prob-

* From the Carpenter Memorial Clinic, Memorial Hospital.

able that irritation, chronic inflammation, and injury are significant etiologic factors. Only one case has been reported in an Orthodox Jew circumcised eight days after birth. The Mohammedans, circumcised between three and ten years, have a low incidence of penile cancer, while the uncircumcised Hindus of the same geographic location have a high incidence. Lenowitz and Graham,⁹ in a series of 139 cases, found eight patients circumcised between the 14th and 30th year who developed cancer from 12-22 years later.

Penile cancer usually arises on the prepuce or glans but may arise from the skin of the shaft or the urethral mucosa. Two distinct types are described: papillary, and infiltrating. The papillary type is more common and usually arises from the glans beneath a tight foreskin. As the disease progresses, infection and a foul sometimes bloody discharge occurs. Urinary obstruction and urethral fistulae are occasionally seen. No definite symptom sequence or pattern has been noted. Itching, pain, and discharge from beneath the prepuce are fairly common. Bleeding occurs in a small percentage of patients, and occasionally inguinal adenopathy is noted before the primary lesion is discovered. Pain is a late symptom. The average length of time between the onset of symptoms and the time the patient seeks medical consultation has been reported to be from ten months to two and one-half years.

Cunningham² describes three lymphatic systems draining the penis. The integument drains into the superficial inguinal nodes which communicate with the deep inguinal nodes. The drainage from the glans and corpus cavernosum enters the deep inguinal nodes which communicate with the external iliac nodes. The third lymphatic system drains the urethra and corpus spongiosum; some of these empty into the deep inguinal nodes and others pass beneath the symphysis pubis with the dorsal vein and end in the nodes along the external iliac vessels.

Inguinal lymph node enlargement is found in most cases of penile cancer. We agree with Dean³ and Graves⁷ that such adenopathy is more often inflammatory than neoplastic, since the nodes frequently regress to normal after the infected, sloughing cancer has been

removed. Inguinal lymph node metastasis is embolic in type and may occur early or late in the disease. Visceral metastases are reported in 15 per cent of fatal cases by Schreiner.¹³

The literature on the treatment of penile cancer is confusing because of the variety of treatment methods recommended, the frequent failure to analyze results in correlation with the anatomic extent of the disease, and the inclusion of recently treated cases in the series which makes estimation of end-results impossible. Jorstad⁸ advised against superficial or interstitial radium therapy and prefers surgical removal by conservative amputation reserving inguinal dissection for cases with inguinal metastasis. Dean⁴ recommends superficial roentgen therapy for tumors less than 2.5 cm. in diameter, conservative amputation for larger tumors, inguinal dissection only if inguinal adenopathy fails to regress with removal of the grossly infected primary lesion. Pack states that X-ray therapy is of no value. Naegeli¹¹ also reports that roentgen therapy is ineffective, particularly for metastatic nodes, since the groin tolerates irradiation poorly.

The routine radical one-stage dissection of both groins and amputation of the penis is advocated by Young, Cunningham, Leighton, and Campbell because of the difficulty in distinguishing cancerous from inflammatory nodes. Vernon Dick recently made a similar recommendation except in poor risk patients or those with inoperable metastasis. On the other hand, Dean³ advocates conservative amputation when the inguinal nodes are not involved. In a series of 103 cases he used three forms of therapy. Twelve superficial cancers were treated with radiotherapy; of these nine survived 1 to 12 years without evidence of metastasis and three were lost to follow up. Fifty-one had extensive primary cancer with no inguinal metastasis, and all but one received partial amputation. One patient refused surgery and was given radiotherapy, which failed to control the disease. Thirty-three or 64 per cent were living without evidence of disease 1 to 20 years after operation. The only death due to cancer of the penis was in the patient who was given radiotherapy. Nine died of intercurrent disease, 6 were

lost, and 2 were operative deaths. Of the 40 remaining patients who had metastatic disease when seen, only two survived (19 and 33 months) even though radical inguinal dissection was performed when possible. Thirty-three died of metastatic disease, 13 died of intercurrent disease, and there were 4 operative deaths.

The treatment problem is further confused by the different interpretations of the terms "radical amputation" and "radical groin dissection." Radical inguinal dissection, in our opinion, should be reserved for dissections extending above Poupart's ligament retroperitoneally along the iliac vessels to the bifurcation of the common iliac. Since metastasis to the external iliac nodes may occur through the lymphatics described above, a dissection of this extent is indicated if lymph node dissection is to be performed. The radical amputation usually described includes the inguinal and femoral nodes only.

The series of cases here reported is small. It is presented to emphasize the importance of the local extent of the disease in planning treatment and the prognostic importance of invasion of Buck's fascia, as well as that of inguinal metastasis.

Seventeen patients with cancer of the penis were admitted to the Carpenter Memorial Clinic from 1935 to 1946 inclusive (Table I). Of these, six are unsuitable for analysis for the following reasons: one, aged 83, and one, aged 74, died from other causes 3 and 15 months respectively without recurrence after conservative amputation; one, aged 77, following amputation elsewhere refused inguinal dissection for metastatic cancer and died 6 months later; one was too advanced for any treatment, dying 2 months later; one seen in consultation, was treated elsewhere and course is unknown; one patient was lost to follow up 3 months after amputation. Five of these six had partial amputation of the penis; the one lost to follow up was a 43-year-old Negro who retained sexual function; the only one with known inguinal metastasis had his primary treatment elsewhere and probably had disease at that time.

Eleven other cases have been followed for 3 or more years. Eight of these had partial amputation, with only one recurrence. The re-

currence in this case was confined to the stump of the penis, and will be discussed below. One patient was treated by circumcision only for an early preputial cancer at age 83, and was well and working 2 years later. One patient who refused operation was treated by superficial X-ray therapy; the cancer was destroyed, and conservative amputation later performed for acute urinary retention due to late radionecrosis of the glans. One patient had total amputation of penis and crura, with bilateral radical inguinal dissection 6 weeks later (including external iliac nodes). He died in 6 months with pulmonary metastasis and inguinal recurrence.

The two fatal cases in this series both had a serious prognostic finding: the cancer had penetrated Buck's fascia and invaded the corpus cavernosum. One died in 6 months in spite of radical surgical treatment, with obvious hematogenous spread of his disease. The other had extensive local recurrence in the stump of the penis and abdominal wall while under his physician's observation and was only referred back when he had widespread local disease. His inguinal nodes were dissected but showed no metastatic cancer. Hematogenous spread was suspected but not proven.

The following plan of treatment for penile cancer seems rational.

- 1) Cancer confined to glans and prepuce, including skin of shaft, may be treated by simple amputation with good results.

- 2) Radical inguinal dissection, including external iliac dissection, is indicated if metastatic nodes are present, or are found subsequent to amputation.

- 3) Since inguinal adenopathy is always present, but usually inflammatory, a short observation period after amputation is justified.

- 4) In doubtful cases, aspiration of the suspected node to confirm the diagnosis of cancer is indicated, but not surgical biopsy which may interfere with subsequent complete dissection.

- 5) Total amputation of penis and crura with transplantation of urethra to perineum is indicated when the corpus cavernosum is invaded by cancer. Radical inguinal dissections, as described above, should be performed in such cases if the patient's condition per-

TABLE I

Name	CMC #	Treatment Date	Age Race	Extent of Lesion	Treatment	Follow-Up	Survival
*M.T.	396	3-23-35	83 N	2x51.5 cm. lesion on glans	Part Amp.	Died 3 mos. post-op. of senile debility	Dead 3 mo.
*T.M.	701	9- 7-36	77 W	2x3 cm. lesion in glans with infiltration of shaft; nodes bilat.	Part. Amp elsewhere	March, '37, enlarged ing. nodes with drainage of left node pos. for Ca. Refused groin dis. Palliative x-ray Apr.-June, '37. Died of disease and sepsis 10-27-37	Died of disease, 13 mos.
L.S.	872	4-27-37	41 W	Entire glans ulcerated with fistulous opening to urethra on left side	Part Amp.	No evidence of disease 6-22-48; impregnated wife 10 mos. post-op.	11 yrs.
J.C.	1364	6- 8-38	62 W	One-half glans and urethral orifice—penetrated Buck's fascia to corpora cavernosa.	Part Amp.	2-4-39, Recurrence in stump and corpora cavernosae; nodes both groins. 2-13-39, Rad. amp. with bilat. ing. dissection; nodes histologically neg for Ca. 5-27-39, Extens. recurrence on abdominal wall, 8-15-39, Died of disease.	Died of disease, 14 mos.
J.E.	1592	3-30-39	84 W	1.5 cm. lesion on foreskin attached to post. aspect of glans.	Part Amp.	4-1-45, Died of old age, with no ev. of disease.	6 yrs.
E.T.	1910	8-17-39	66 W	Small nodule foreskin	Part Amp.	4-6-48, No ev. of dis.	9 yrs.
G.T.	2087	12-13-39	60 W	Entire glans and portion of prepuce.	Part Amp.	4-15-48, No ev. of dis.	9 yrs.
* J.S.	2169	2- 6-40 Dis inop	67 W	Penis 20 cm. long, 8 cm. wide; distal $\frac{2}{3}$ ulcerating, prox. $\frac{1}{2}$ enlarg. & indurated; nodes both groins, 3 cm. diam.	Dis. Inop.	4-3-40, Died of disease	Died of disease, 2 mos.
* J.B.	2216	3-11-40 Treatment refused	83 W	Swelling of glans.	Amp. Recom. and refused.	Pt. lost for follow-up.	
F.R.	2758	8-11-41 x-ray therapy 2-32-42 Part. Am	70 W	2.5x2 cm. lesion on glans extending to frenulum and shaft.	Surg. refused and x-ray given; later consented to surgery.	4-3-46, pt. died with no ev. of disease. Op. specimen showed only radionecrosis.	5 yrs.
* J.S.	2905	12-22-41	43 N	Warty lesion of glans, 2.5 x3.5 cm. extending to skin and underside of shaft.	Part Amp.	3-30-42, No ev. dis.; no follow-up since this date.	?
* F.C.	3118	7-23-42	74 W	1.5 x1 les. on glans	Part Amp.	11-10-43 Pt. died with no ev. dis.	15 mos.
W.G.	3491	9-16-43	57 W	Large, fungating, ulcerating mass along shaft, with multiple fistulae.	Sim. Amp. urethral transplant to perineum.	6-2 48, No ev. dis.	5 yrs.
W.W.	3822	10-25-44	66 W	Ulcerated les. on prepuce, with spread to glans.	Part Amp.	11-3-48, No ev. dis.	4 yrs.
S.P.	4221	11-26-45	70 W	Entire glans with edema of foreskin.	Part Amp.	9-30-48, No ev. dis.	3 yrs.
J.B.	4529	9-30-46	83 N	Small lesion on prepuce only.	Circumcision	10-14-48, No ev. dis.	2 yrs.
J.R.	4578	12- 5-46	46 W	Ulcerated les. of glans and foreskin with palp. nodules along shaft. Small nod. palp. in each groin.	Amp. of entire penis and crura. Urethra transpl. to perineum. Dis. involved corpora cavern.	1-47-47, Large node, 1 x2 cm. in rt. groin. 1-14-47, Rad. bilat. ing. dissection. 6-20-47, Died of dis. in lung, retroperitoneal nodes, and in sloughing ing. dissection region.	Died 6 mos. of dis.

* These cases omitted from analysis for reasons stated in text.

mits. In any event the prognosis is poor because of probable hematogenous metastasis to distant organs.

6) Adequate roentgen therapy will destroy penile cancer but late radiation complications are likely to occur. A solitary metastatic node may sometimes be destroyed by heavy irradiation. It is impossible to control bulky or ulcerated inguinal nodes by irradiation.

SUMMARY

Seventeen consecutive cases of penile cancer seen from 1935 to 1946 are tabulated, eleven of which are suitable for analysis. Six cases, either too advanced for treatment, refusing treatment, or dying of intercurrent disease without recurrence are briefly described. Ten conservative amputations with only one recurrence are reported. One radi-

cal amputation with bilateral inguino-iliac lymph node dissection failed to control an advanced case. Both failures occurred in cases with penetration of Buck's fascia and infiltration of the corpus cavernosum. Inguinal node enlargement is uniformly present with penile cancer, but is usually inflammatory. Aspiration biopsy of nodes is useful in doubtful cases. One fatal case had negative nodes on dissection. Conservative amputation is recommended when the corpus cavernosum is not infiltrated, with observation or aspiration of suspected inguinal nodes; radical inguino-iliac dissection may be done at a second stage. Four patients, aged 41, 43, 46 and 66 years, one of whom impregnated his wife, retained normal sexual function after partial penile amputation.

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REFERENCES

1. Campbell, M. F.: *Am. J. Surg.*, 28: 55, 1935.
2. Cunningham, J. J.: *Surg., Gyn. & Obs.*, 29: 693, 1914.
3. Dean, A. L., Jr.: *Epithelioma of the Penis*, *J. Urol.*, 33: 252, 1935.
4. Dean, A. L., Jr.: *Epithelioma of the Penis: Treatment With Radium and Roentgen Rays*, *Arch. Surg.*, 18: 1273, 1929.
5. Dean, A. L., Jr.: *Epithelioma of the Penis in a Jew Who Was Circumcised in Early Infancy*, *Trans. Am. Assoc. Genito-Urin. Surg.*, 29: 493-499, 1936.
6. Ewing, James: *Neoplastic Diseases*, Philadelphia: W. B. Saunders Co., 3rd ed., p. 944.
7. Graves, R. C.: *The Treatment of Malignant Disease of the Penis*, *J. Urol.*, 32: 501, 1934.
8. Jorstad, L. H.: *Carcinoma of the Penis*, *Am. J. Roentgen.*, 46: 232, 1941.
9. Lenowitz, H., and Graham, A. P.: *Carcinoma of the Penis*, *J. Urol.*, 56: 458, 1946.
10. Melicow, M. M., and Ganem, E. J.: *Cancerous and Pre-cancerous Lesions of the Penis: A Clinical and Pathological Study Based on Twenty-Three Cases*, *J. Urol.*, 55: 486, 1946.
11. Naegeli, F. D.: *Epithelioma of the Penis*, *J. Urol.*, 45: 202, 1941.
12. Pack, G. T., and Livingston, E. M.: *Treatment of Cancer and Allied Diseases*, New York: Paul B. Hoeber, Inc., Vol. III, p. 1923, 1940.
13. Schreiner, G. F.: *Radiology*, 13: 253, 1929.

WHAT WILL WE DO WITH THE DOCTOR'S \$25?

The National Campaign Plan of Procedure

MR. CHAIRMAN AND LADIES
AND GENTLEMEN:

Every minister preaches from a text—and every campaign, if it is a successful campaign, has to have a *theme*!

The theme, if it is geared to reach more than 100 million people, as we must in this campaign, should have simplicity and clarity.

Most of all, it must high-point the major issues of the campaign with great brevity—in

language that paints a picture understandable to people in all circumstances.

EVERY DOCTOR A CAMPAIGNER

That's one of the reasons we have a large, blown-up color reproduction of the famous Fildes painting, "THE DOCTOR," on exhibit here today, with the simple caption under it:

"Keep Politics Out of This Picture!"

The picture and the caption, even without elaboration, focus attention on one of the most important arguments against government-controlled medicine.

Smaller color reproductions of this famous painting soon will go up in doctors' offices all over America as one of the first steps in dramatizing our case to the American people—and more important—as the first step in *making doctors campaigners in their own behalf*. For this purpose we have added a hundred words of text which help to establish the *theme* of this campaign.

I'm going to read you that text, because it stresses, in simple language, the essential points of the case which we believe will turn the tide *against* compulsion and *in favor* of voluntary health insurance.

The text is as follows:

Keep Politics Out of This Picture!

When the life—or health—of a loved one is at stake, hope lies in the devoted service of your Doctor.

Would you change this picture?

Compulsory health insurance is political medicine.

It would bring a third party—a politician—between you and your Doctor. It would bind up your family's health in red tape. It would result in heavy payroll taxes—and inferior medical care for you and your family. Don't let that happen here!

You have a right to prepaid medical care—of your own choice. Ask your Doctor, or your insurance man, about budget-basis health protection.

This is signed: American Medical Association.

These smaller posters will be sent under the signature of the A.M.A. to show medical men throughout the country that the Association is resolutely behind the National Campaign.

(Presented by Clem Whitaker, Leone Baxter, Directors of the National Education Campaign of the American Medical Association, for the Conference of State Medical Societies, Chicago, February 12, 1949.)

They will be sent to doctors only at their own request. Return postal cards will be in the mail shortly.

The dimensions of the posters are approximately 18 x 20 inches. They are dignified—but carry a strong message—stronger, we are aware, than most doctors are accustomed to display in their waiting rooms. Their final cost, including the right to reprint the famous picture, art work, stock, printing and mailing comes to about 30 cents each. If we can light the crusading fires, and tie into the campaign the *majority* of the doctors of this country, for the cost of 30 cents each, the results will be well worth the price!

For the information of some of you who are wondering just when these will begin to show up in doctors' offices—here is the production schedule: This poster has been in the works for three weeks. It was out of our hands on February 7. The press proofs will be submitted to us on March 3. The schedule calls for delivery to the bindery on March 15; cut and drill sheets, March 21; production completed March 25; inserting, addressing and mailing completed on April 4.

That's a lot of time—60 days a lot of effort; a lot of money. And we look for real results.

THE REAL AMMUNITION

The major portion of the campaign budget will be spent for production of materials—the campaign ammunition. We are not going to waste any campaign funds on faulty ammunition. Any general pamphlet produced will have to be printed in minimum lots of 7,500,000—just to put 50 copies into each doctor's hands alone. To make the smallest trickle beyond that outlet to the public, we shall have to print a minimum of 10 million copies of any piece produced. That means simply that we can't afford to experiment. We can't afford to throw our next-best or divided efforts into print and hope it will suffice. What we produce must be brief enough to read—dramatic enough to create sentiment—and sound enough to produce action from the thinking people of this Nation.

Some very excellent basic material has been produced by men of medicine and men close to the profession, long before the National Education Campaign was initiated—

and that will give the production of the new material the most helpful impetus.

One of the pamphlets in the planning and production stage is a small, sparked-up *human-interest folder* to satisfy the need among doctors for a simple piece that can be given to patients, mailed with statements or placed in waiting rooms. It will be suitable as well for general use by allied professions and industries. This will be a special appeal, illustrated public pamphlet, geared to the interests of the average citizen—the veteran, farmer, mother, businessman, wage-earner, etc.

The doctors will receive their first copy of the pamphlet direct from A.M.A. headquarters, with a brief letter, telling some of the highlights of the proposed campaign, and advising the doctors that they can get the pamphlet in quantity through their State or County medical societies.

A *Question and Answer pamphlet* which actually will serve as the doctor's campaign handbook, also is in process. The handbook should give every doctor, not only the facts he needs to argue his case effectively, but also simple instructions on how to practice on the body politic.

The small leaflet will be a general public piece and can be distributed through many channels. The handbook, while beamed to doctors, also will be used for distribution among members of our lay committees. We believe that the dentists' associations, the druggists' organizations, the hospital associations, the medical auxiliaries and various other closely related groups should be urged to turn out similar material, or use ours under their own imprints.

We also plan to assist many cooperating *national* organizations—veterans' groups, for example—to produce pamphlets slanted to their own memberships, and emphasizing the arguments which will have special appeal to them.

A third pamphlet is in preparation whose title will be "*Calling Every Doctor—This Is an Emergency!*" This, too, will go directly to physicians, with a letter from the American Medical Association. It will be a briefly presented statement of the issue, the objectives—and the procedure to accomplish those

objectives. Its purpose will be similar to that of the poster—to get every doctor who believes in the private practice of medicine working enthusiastically with his local campaign committee.

A PAMPHLET CAMPAIGN

Actually, this issue is made to order for *pamphlet presentation* . . . and we plan heavy use of pamphlets, running into many millions of copies, to tell medicine's story dramatically and effectively to both *leaders* of public opinion and *rank and file* citizens throughout the country.

With new developments and changing conditions in the campaign, there likely will be need for frequent revision of the text of early pamphlets, or the production of entirely new material. As a consequence, a heavy load will fall on our writing and production department and one of the first problems of course is to produce copy fast enough to satisfy the press, A.M.A. members, State and County societies and the literally hundreds of business and civic groups which all require special servicing.

Above all, the written material in this campaign must be emotional, fighting prose. We can't win an audience with dry, statistical copy. We have to give the people *facts*, but in very readable form. The surest way to break down apathy and public disinterest is to turn out copy that stirs the emotions—and in doing so, opens closed minds.

It is vital, too, that much of this flow of words should reach the people through *normal* newspaper and magazine channels, rather than through direct publicity releases. We intend to work with the great newspapers and the national magazines to get them to do special jobs, with real reader interest, and that work already is well started. The story of British medical practice today, as an example, is actually one of the most important stories of this era. A.M.A. already had started the wheels moving to get the truth and publicize it before this Campaign began. It is a story which must be told and re-told by staff writers of American magazines and newspapers.

Once it has been printed in a magazine or newspaper of national importance, re-prints of the article will be placed in the hands of key people throughout the country.

ORGANIZATION PHASES OF THE CAMPAIGN

There are two distinct phases of *organization activity* planned.

First is the plan of organization and operation for medical groups, which involves the relationship of the State and County societies to the A.M.A. in the conduct of the campaign. This calls for a definite division of work, with fixed responsibility in each area, so that a vigorous grass roots campaign can be developed.

Second is the plan for mobilizing the strength of the major public organizations, local, State and National—groups like the farm organizations, the more powerful business and civic associations, fraternal, religious and veterans' organizations.

The program with respect to the medical organization structure, has been discussed carefully with the Campaign Coordinating Committee members in order to reach practical and intelligent decisions. The job must be done with as little friction as possible, so that doctors in the field will be directing their energies to winning converts, and their fire to the opposition. It is usually difficult to get 150,000 individualists (and most doctors *are* individualists) to agree on anything, but if ever the members of the profession needed to pull together, this is the time.

STATE MEETINGS

A number of States have reported that within the next 30 to 60 days after the National Meeting of State Representatives (February 12, in Chicago), they are calling meetings of County Society representatives in their own States, for the purpose of passing along to them the National Plan of Campaign, and determining on their own procedures in relation to it.

Accordingly, for their help and guidance at this time, we will chart some of the important work which needs to be done within the States.

COUNTY SOCIETY ACTION

1.—Every County Medical Society in the United States should adopt a strong resolution against compulsory health insurance within the next 60 days—and should then direct the President of the Society to communicate its action, by letter or telegram, to the Congressman (or Congressmen) representing the district; also to the State's two U. S. Senators. The Society's resolution should emphasize the

inevitable deterioration of medical care and the danger to the public health, once government medicine is in operation, and should stress the tremendous growth of the voluntary systems and that the American people are taking care of the problem in the American way. The President's letter to the Congressman or Senator should ask for a reply, so that his position can be made known to the doctors of his district. Copies of all replies should be forwarded to The National Campaign offices and to the Washington office of A.M.A. as rapidly as they are received. We will provide several form resolutions as a guide to the Societies.

The combined political strength of all the doctors in a congressional district is impressive—and we need to put every Congressman on notice of the position taken by his doctor constituents.

LAWMAKER'S DOCTORS

2.—We need to locate *the personal physician of every Congressman and every U. S. Senator* (the County Society secretary probably should take on that job) and have him send a personal letter to his patient, the Congressman, telling him of the danger of socialized medicine, and asking for his help in defeating any compulsory health insurance program which may be submitted. We will provide form letters, but the Society secretary should help the doctor, if necessary, in rewriting and personalizing the letter in each instance. This letter also should ask for a reply—and again, the information in the replies should be sent to the National Campaign office and the A.M.A. Washington office.

SPEAKERS' BUREAUS

3.—We need an active Speakers' Committee in every County Society to cover local meetings. The Executive Secretary of each of the State Societies should aid in organizing this work. We will provide form speeches, but in many cases they will need to be localized to meet local conditions.

One of the very great requirements is for every State to develop top bracket speakers both in the profession and apart from it, who can be called on for important meetings, both State and National.

DEBATES

We do not believe it a sound campaign prac-

tice to sponsor too many debates. They make a forum for the opposition which would be difficult for them to secure otherwise, and they are too easily stacked. This is particularly true of broadcasts of debates open to the public. Our speakers will stick to *the facts*. But already in this campaign, the opposition has begun to use the facts very loosely. Their claque in the audience are briefed to applaud wildly every trick phrase their speaker utters. And the public has no way of knowing which is fact and which is fancy. If our case were so poor that we had to stack meetings, it would not be worth the effort we shall all put into this campaign.

PRESS COMMITTEE

4.—We need a Press Committee in every County Society to make personal calls on the editors of all newspapers in the County and urge their support of medicine's position. This work, again, should be coordinated by the State Society.

ENDORSEMENT DRIVE

5.—Since our first objective is making the position of the people on this issue known and recognized by our representatives in Congress, much of our first campaign effort must continue to be devoted to getting organizations on record in opposition to compulsory health insurance.

In this connection, one of the first mailings from the National Campaign Headquarters to the States will be a list of conventions scheduled in each State during 1949. This should reach you during the coming week. This is not to be considered a complete list, but we sincerely hope it will be helpful in beginning the drive for resolutions in your area. It will include all conventions reported at this early time; you will need to add to it as others are scheduled. The list will contain the following information:

- Name of organization
- Town where convention is scheduled
- Estimated attendance
- Person to contact, to our best knowledge
- Whether convention is national, state or local.

Some organizations on the list may have a policy of not taking action on public issues, or will profess "no interest." When an issue is of fundamental importance, as ours is, how-

ever, and when somebody takes the time to explain the honest facts and drive for a resolution, virtually all the important organizations do take action.

As fast as they are produced, form speeches geared to different types of audiences will come along to you; also suggested form resolutions which can be localized or particularized as you see fit; also the Question and Answer pamphlet providing brief, factual answers to the most commonly asked questions concerning the issue of compulsory health insurance. Armed with this material, a good speaker will have little trouble making a splendid, positive case before even a difficult group.

ENDORSEMENTS . . . PROCEDURE

Since the value of formal action from any group is in exact proportion to the work done to capitalize on it, these are some of the things which must be done, once a good resolution is in your hands:

If it is from a strong, Statewide organization you should send copies of the resolution first thing to:

- Your two U. S. Senators
- Your Congressmen
- Your State Legislators
- The A.M.A. office at 1302 18th St., N.W., Washington, D. C.
- The National Campaign Headquarters, 1 North LaSalle, Chicago.

Every *County Medical Society*, immediately it has acted, should send copies of its resolution to:

- Its two U. S. Senators
- Congressmen from its own District
- State Legislators from its own District
- Its State Campaign Chairmen at the State Medical Association Office
- The A.M.A. Office at 1302 18th St., N.W., Washington, D. C.
- The National Campaign Headquarters, 1 North LaSalle, Chicago.

Action of other County or City organizations should be reported to U. S. Senators only when deemed of sufficient importance to merit such handling, but should be reported at once to all others listed above.

Resolutions sent to all Congressmen should be accompanied by *covering letters* asking for a reply, in order to keep advised, if possible,

of the position of your legislative representatives.

Originals of all resolutions should be kept in the originating office, unless otherwise requested.

Copies of resolutions should reach *the press and radio* on the same day action is taken if possible, through your State or County publicity channels, as determined by your Campaign Chairman.

When an organization has acted, it should really be asked to go to work in the campaign:

- a. getting literature to its membership, either through meetings or by use of its mailing list, or both
- b. using its house organ or news letter for both news and editorials on the issue
- c. offering its talented members as volunteer speakers on the issue of compulsory health insurance
- d. (Members on record in one organization can help, too, in presenting resolutions to other organizations of which they are members, and helping to steer them to favorable conclusions.)

Most of the State Medical Associations have working organizations long in existence and thoroughly ready and able to handle their part in the Campaign.

6.—Machinery will have to be set up in the few States where it is not already operating, probably under the direction of the State Society Office, to see that shipments of materials from the National Headquarters actually get into doctors' offices and finally into the hands of doctors' patients.

NAME YOUR STATE CONTACT WITH NATIONAL HEADQUARTERS

It is important to name the person, presumably in your State Association office, to whom the National Headquarters will channel supplies of literature and other materials for fast distribution in your State. His name, address, and telephone number should be sent at once to the National Campaign Headquarters.

In some States it may be desired that supplies go direct to the County Society offices. However, it is the feeling of the National Campaign directors that campaign materials in general should channel through the State Medical Association machinery, and down to the County Societies under the direction of

the State itself. That, we believe, should be determined within each State.

AUXILIARIES ARE EFFECTIVE

Obviously, the Women's Auxiliary of the Medical Societies will be able to carry a big share of the load. As some of the California representatives will tell you in that State's campaign on the issue of compulsory health insurance, the women accomplished some of the most effective work done in speaking before women's organizations, in literature distribution, in securing endorsements and in keeping the club and women's editors enthusiastic on the issue.

COMMITTEES

It is important within the States to organize committees of doctors, both on the State and the County basis, who are able to give their time to the Campaign objectives, to handling speaking engagements and to working on endorsements.

Laymen may be added to committees as time goes along, as the work gets heavier and as laymen become more interested in the issue. Committees should be kept close-knit, however, and controlled by the profession's own Chairman. In any case, help from leaders outside the medical profession should be sought and welcomed. Not only will such help build the broad public picture of the danger in socialized medicine, to every other element of our national life.

CONCLUSION

We recognize that A.M.A.'s permanent staff, headed by Dr. Lull, has a full load of work in just maintaining its normal activities. We will need a tremendous amount of help from them, however, and we have had many warm assurances of their desire to be in the front lines of the battle, as they have been for years past.

We visualize that they will serve in many capacities, giving the National Campaign the aid of their counsel and guidance, as required, providing the background material and the knowledge of the vast medical organization which we so badly need, flying into key States to carry the message to Garcia, maintaining lines of communication with all the State and County Societies, opening doors everywhere that are vital to the success of medicine's campaign.

The Public Relations Department of the

A.M.A., under the very capable hands of Larry Rember and his staff, is going to have a tremendous task to perform. Its work will be vastly heavier as a direct result of the campaign. The States, incidentally, probably will see more of Mr. Rember, Mr. Bach and Mr. Doscher than ever in the past, for part of their work will be "trouble-shooting" in areas where the campaign at one time or another may bog down and require a jet-propulsion assist.

Their work will coordinate closely with the National Campaign and in many respects will overlap it.

They will make an intensified, affirmative campaign to drive home to the public the vital part the medical profession plays in the lives and the health of Americans. They will intensify their efforts to interpret factually—and dramatically—the work of the Departments of the A.M.A.—work that daily reflects highest credit on the profession and which has made the entire world deeply respectful of the A.M.A.

We are confident, gentlemen, that the Campaign which has been laid out is a practical, workable, effective campaign, and will produce the results we must have. We are confident that working together, the fight against government-controlled medicine can be won—and that when it is over, medicine will have pointed the way for the whole Nation, at a time when the Nation might easily travel either road—toward a controlled economy or toward a free economy.

We sincerely believe that the individual doctors throughout the Nation, who have paid \$25 each to tell their story to America, will feel proud, as the story unfolds toward its conclusion—proud of their part in writing one of the greatest and most significant sagas of American history.

Woman's Auxiliary

Haddon Hall will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, New Jersey, June 6th to 10th, 1949.

Have you made your reservations? If not, send your request *at once* to Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, New Jersey.

+ Editorial +

DELAWARE STATE MEDICAL JOURNAL

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WHAT NEXT FOR N. P. C.?

We reprint below, from the *Ohio Medical Journal* for March, 1949, an editorial concerning the National Physicians Committee. The title fully describes the viewpoint of the Ohio editor.

TIME FOR N. P. C. TO BOW OUT OF THE PICTURE

Now that the American Medical Association has initiated plans to carry on a public education program which, if present indications are accurate, will be dignified and constructive but at the same time effective, it is high time for the National Physicians Committee to bow itself out of the picture, in our opinion. It would do well to follow the example set by the United Public Health League, which has announced that it is closing its Washington Office now that the A. M. A. office there is functioning efficiently and effectively.

Continued activity by the N. P. C. will create additional confusion in the minds of physicians and the public. It will retard speedy development of the A. M. A. program.

The A. M. A. has decided to do the job. It can and will, in our opinion. United backing of one single agency to head-up this activity is what is needed. The A. M. A. is that agency. There is no need for duplicating, overlapping organizations. In fact, a continuation of this situation will result in disunity, waste, and inefficiency.

Despite the utterly senseless faux pass it committed when it circularized that outrageous "Washington Letter" with its printed appeal to religious bigotry, which we have an idea was largely responsible for the New York County Medical Society voting 432 to 333 (out of 5960 members) against paging the A. M. A. assistant, the N. P. C. should not "bow out of the picture," but it should refrain from any further soliciting among the physicians. And it wants to watch its step; another faux pas may be fatal!

We are not able to subscribe to this thesis. Now that the A. M. A. has assessed and is in process of collecting \$25 from each member for its National Educational Campaign, the N. P. C. should make no further requests of doctors for funds. By the time the doctor in Delaware pays his \$10 dues to the County Society, and \$25 to the State Society, plus \$25 to the A. M. A., or a total of \$60, he is paying all that could be reasonably asked of him.

But this does not mean that the N. P. C. should "bow out of the picture." The N. P. C. raised and disbursed nearly one-half million dollars in 1948, in the fight against socialized medicine, and we dare say three-fourths of the funds it raised were contributed by the manufacturers of chemicals and pharmaceuticals, the publishers of medical books and magazines, and similar commercial organizations, all of whom have a direct stake in the preservation of the private practice of medicine. We feel that the N. P. C. should continue its efforts in these directions, which have been so notably successful. We take it for granted that the A. M. A. welcomes, desires, and even needs the assistance of every friendly interest, in fact it has said so officially.

MISCELLANEOUS

American College of Chest Physicians

The Board of Examiners of the American College of Chest Physicians announces that the next oral and written examinations for Fellowship will be held in Atlantic City, June 2, 1949. Candidates for Fellowship in the College, who would like to take the examinations, should contact the Executive Secretary, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

The fifteenth annual meeting of the American College of Chest Physicians will be held at the Ambassador Hotel, Atlantic City, June 2-5, 1949. An interesting scientific program has been arranged for this meeting, and speakers from several other countries are scheduled to appear.

American Board of Preventive Medicine And Public Health

The American Board of Preventive Medicine and Public Health, Incorporated, was approved by the Advisory Board for Medical Specialties and by the Council on Medical Education and Hospitals of the American Medical Association at their meeting on February 6. The American Board of Preventive Medicine and Public Health, Incorporated, therefore is prepared to accept applications for examination for certification in this specialty.

As indicated in the attached bulletin, the requirements for certification include general qualifications, such as moral and ethical standing in the profession, adequate training in medicine and internship in an approved hospital, and licensure to practice medicine in the United States. Eligibility for examination also requires that the applicant have special training and experience in preventive medicine and public health of at least six years following internship. This must include special academic training, or its equivalent, and field training or residency meeting the standards set up by the Board.

Applications may also be received for the Founders Group who may be excused from examination. The By-Laws authorize a Founders Group made up of practitioners of preventive medicine and public health who

have attained unquestioned eminence in the field. The Founders Group presumably will include persons having attained eminence as indicated by academic appointments at the level of professor or associate professor of preventive medicine and public health, or who have held positions of eminence and responsibility for a period of not less than ten years in this field.

For information write to Ernest L. Stebbins, M. D., Secretary-Treasurer, American Board of Preventive Medicine and Public Health, Inc., Johns Hopkins University School of Hygiene and Public Health, Baltimore, Md.

University of Pennsylvania

The Medical Alumni Society of the University of Pennsylvania will hold its Annual Meeting at its Alumni Dinner in the Hotel Claridge, Atlantic City, on Wednesday, June 8th, 1949, at 6:30 p. m., during the A. M. A. Convention. Cocktails at 6:00 p. m. (cash bar). Ladies are cordially invited.

Tickets, \$7.00 each, must be purchased in advance, as a definite number of reservations must be guaranteed to the hotel. Your reservation accompanied by your check, made out to the Medical Alumni Society, should be sent to Miss Frances R. Houston, Executive Secretary, Medical Alumni Society, 36th and Pine Streets, Philadelphia 4, Pa.

The Staff of the Hospital of the University of Pennsylvania will hold a Clinic for medical alumni Saturday, June 18, in the Medical Amphitheater of the Hospital from 9 a. m. to 12 noon. The medical alumni will then join the other alumni for luncheon in the Quadrangle, and for the parade to Franklin Field, where Pennsylvania will play Dartmouth in an Ivy League baseball game.

We are well aware of the penalties of delay in diagnosing tuberculosis. Undiscovered, the disease progresses, often to the point of hopeless intractability; unchecked, it spreads freely; and unrecognized, it breeds new cases. If we are to succeed in controlling tuberculosis, this is exactly what must not continue to occur. Francis J. Weber, M. D., Pub. Health Rep., Oct. 1, 1948.

Discussion of compulsory health plans, for medical care and for disability compensation, will highlight the Fifth Annual meeting of the Conference of Presidents and Other Officers of State Medical Associations to be held at Atlantic City on Sunday afternoon, June 5. The meeting will be held in the Rose Room of the Traymore Hotel, the day preceding the opening of the AMA general sessions, and it will be open to all physicians.

Cecil Palmer, English publisher, author, and journalist, will tell of the impact of socialized medicine on the British doctor and his patients. Palmer, now completing a tour of America, has been a brilliant spokesman for the British Society of Individual Freedom. An American viewpoint of the British health system will be given by W. Alan Richardson, editor of *Medical Economics*, now in England for a first hand study of all phases of the program.

With compulsory disability compensation programs operating in three states, and Washington and New York the latest to pass such laws, the Conference presents two speakers on this vital question. Edward H. O'Connor, managing director of the Insurance Economics Society of America, will discuss the legislation, and Dr. Bert S. Thomas, medical director of the California program, will tell of the medical implications of cash sickness compensation acts.

The AMA relationship to the state societies will be reviewed by Dr. George F. Lull, secretary of the AMA, and the problems facing the state association at the crossroads will be the subject of a talk by Dr. Clarence Northcutt, president of the Oklahoma State Medical Association. Plans are also pending for the presentation of views on national health legislation by a member of Congress.

BOOK REVIEWS

Microbiology and Pathology. By Charles F. Carter, B. S., M. D. 4th Edition. Pp. 845, with 241 illustrations, 25 in color. Cloth. Price, \$5.00. St. Louis: C. V. Mosby Company, 1948.

This is a text which is primarily designed for use in the instruction of nurses. In this role it is interestingly written and amply illustrated. The author has concisely condensed a large amount of material into a useful text, which is a tremendous task of itself.

It should prove to be a valuable text for use

in the nurses classroom. I am sure the author would agree that it should be used in conjunction with the good references at the end of each chapter for the nurse to obtain the fullest value from it.

The Business Side of Medical Practice. By Theodore Wiprud, Executive Director and Secretary of the Medical Society of the District of Columbia, and Managing Editor of the *Medical Annals of the District of Columbia*. Second edition. Pp. 232, with 22 figures. Cloth. Price, \$3.50. Philadelphia: W. B. Saunders company, 1949.

This second edition of Mr. Wiprud's book is most welcome. The title is descriptive in that the book includes chapters on such subjects as Personal Efficiency, Office Management, Necessary Financial Records, Doctors' Bills and the Law, the Doctor in Court, Preparation of a Manuscript, Public Speaking, and Group Medical Practice. The chapters on Opportunities for Medical Leadership, Group Medical Practice, and the Doctor Looks to the Future are entirely new.

We believe that every physician who is preparing to set himself up in practice should not merely read but study this valuable guide.

Mayo Clinic Diet Manual. By The Committee on Dietetics of the Mayo Clinic. Pp. 329. Paper. Price, \$4.00. Philadelphia: W. B. Saunders Company, 1949.

The dietary procedure, as outlined in this book, was developed for the guidance of physicians, dietitians, interns, and nurses of the Mayo Clinic and its hospitals. They represent the convergent trend, but not unanimity, of opinion of the physicians of the Clinic. The book presupposes that a diagnosis has been made, which, of course, is common sense. It is not implied that this or any other diet list meets nutritional requirements in all respects, but the book indicates the shortcomings, so that the physician may remedy the defects by pharmaceutical supplementation.

The book not only includes diets for specific diseases but also diets for use following certain types of surgery. There is an appendix, with tables of vitamin supplements, equivalents and substitutes for foods of different percentages of carbohydrates, excess of acidity or alkalinity in foods, foods high in calcium, iron, oxalic acid, sodium, and other items, plus height-weight-age tables for men and for women. The book can be recommended without reservation.

Modern Drug Encyclopedia and Therapeutic Index. Edited by Marian E. Howard, M. D., Associate Clinical Professor of Medicine, Yale University. Pp. 1283. Cloth. Price, \$12.00. New York: Drug Publications, Inc., 1949.

The appearance of the fourth edition of the Modern Drug Encyclopedia, which was originally conceived and executed by Dr. Jacob Gutman, and continued in the third edition in 1946 by his son, Dr. Alexander B. Gutman, is most welcome. Embracing most of the new drugs, which of course are not to be found in the U.S.P., N.F., or N.Y.R., this new edition has been completely rewritten and reset. It contains the descriptions of 3,240 drugs, biologicals, and allergents, 700 of which have been newly introduced. Obsolete preparations have been deleted. The rapid development of the pharmaceutical industry has created a definite need for this Modern Drug Encyclopedia, and the cooperation of 236 American pharmaceutical manufacturers is evident throughout the book. The general arrangement follows that of previous editions.

The publishers, as part of the purchase of the book, will issue a supplementary service which will appear every three months under the title of "Modern Drugs," and which will contain descriptions and a cumulative index of new preparations as they appear. This service will continue till the fifth edition appears, in 3-5 years.

Every physician who wants to keep abreast of the developments in his pharmaceutical armamentarium will need this encyclopedia. To pharmacists the book is, of course, a must.

New and Nonofficial Remedies 1948 Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on June 5, 1948. Issued Under the Direction and Supervision of the Council on Pharmacy and Chemistry of the American Medical Association. Cloth. Price, \$3. Pp. 800. J. B. Lippincott Co., Philadelphia 5, 1948.

In a recent discussion some pointed criticism was made concerning the title of this book. It was contended that by the time a therapeutic agent is included in the book it is not strictly "new"; that, with the increasing frequency of pharmacopoeial revisions the agent, if it carries out its original promise, will

soon become "official," and that drugs included are not "remedies" in the sense that they will cure a disease or, in themselves, restore health.

Granting the cogency of these points, it may also be pointed out that over the years the title, "New and Nonofficial Remedies," has come to represent or connote to the physician, for whom it is primarily intended, a source of needed information, weighed and sifted by representative and competent authorities, concerning the most valuable or promising agents of his current armamentarium. In view of this and of the difficulty of replacing or modifying well known and accepted designations, it would appear that only officious pedantry would dictate a change in the title.

An entirely new feature of the present volume is the section on the relation of the Council on Pharmacy and Chemistry to other bodies concerned with drug products and advertising. These include: The Food and Drug Administration, The Federal Trade Commission, The United States Public Health Service, The United States Treasury Department, The Post Office Department, The United States Pharmacopoeial Convention and The American Pharmaceutical Association. A brief but informative and valuable discussion of each of these agencies is given.

Some thirty-two new monographs appear, representing agents that have been accepted by the Council since the 1947 edition of the book. One notes many additions to the list of new generic designation recognized by the Council for products which have been accepted as marketed under protected names; critical examination reveals the care with which the various chapters and subclassified sections have been revised. The chapters on local anti-infectives and systemic anti-infectives are noteworthy in this regard, apparently by reason of the acceptance of a number of new preparations in these categories. A section on surface anti-infectives is new. A section on protein and amino acid preparations has been added to the chapter on "Agents Used in Metabolic Disorders."

An up to date library would not be complete without a copy of this valuable compendium.

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